

THE RHODE ISLAND MEDICAL JOURNAL



Owned and Published by the Rhode Island Medical Society. Issued Monthly

VOLUME XVII { Whole No. 296 PROVIDENCE, R. I., MAY, 1934 PER YEAR \$2.00
No. 5 SINGLE COPY 25 CENTS

CONTENTS

ORIGINAL ARTICLES

The Treatment of Neurosyphilis. William Newton Hughes, A.M., M.D.	71
Injuries to the Coccyx. Henry McCusker, M.D.	77
Interesting Congenital Deformities. Paul Appleton, M.D., F.A.C.S.	82

Contents continued on page IV advertising section.

ENTERED AS SECOND-CLASS MATTER AT THE POST OFFICE AT PROVIDENCE, R. I., UNDER ACT OF MARCH 3, 1879

MEAD'S POLICY

MEAD'S INFANT DIET MATERIALS ARE ADDED ONLY TO PHYSICIANS' SPECIFIC DIRECTIONS. ACCORDING TO THE LATEST INFORMATION, IN ORDER TO FEEDING IS SUPPLIED BY THE MOTHER BY WRITING INSTRUCTIONS FROM THE DOCTOR WHO HANDLES THE FEEDING. FROM TIME TO TIME TO MEET THE NEEDS OF THE PHYSICIAN, MEAD'S INFANT LITERATURE IS FURNISHED ONLY TO PHYSICIANS.

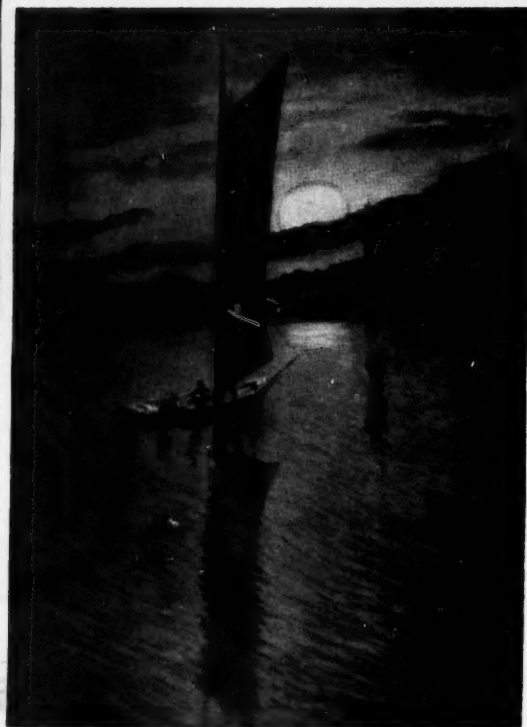
MORE SIGNIFICANT NOW THAN EVER BEFORE—THE MEAD POLICY

WHEN DEXTRI-MALTOSE was marketed in 1911, "without dosage directions," Mead, Johnson & Company pioneered the principle that infant feeding was a therapeutic problem. Up to that time far more babies were fed by grandmothers, neighbors, grocers, and commercial houses than by physicians. This Mead Policy was not readily accepted in the beginning, and it took many years of unceasing effort before the weight of the majority medical opinion finally led to mandatory action on the part of the Committee on Foods in 1932 whereby all makers of baby foods are now OBLIGED to omit dosage directions. The Mead Policy, however, does not stop here. It embraces other principles with which all physicians interested in the private practice of medicine are in agreement, such as (2) No descriptive circulars in packages, or in shipping cartons (for druggists to hand to patients). (3) We supply no display of Mead products for druggists' windows and counters. (4) We do not advertise Mead products to patients. (5) We give no handbills and send no letters to patients concerning Mead products. (6) We do not broadcast to the public. (7) We refer patients to physicians at every opportunity. (8) We devote a great deal of effort and resources to research and to activities that assist the private practice of medicine. When requesting samples of Dextri-Maltose, Mead's Halbur Liver Oil, Pabulum, Mead's Capsules, etc., please enclose professional card to co-operate in preventing their reaching unauthorized persons.

MEAD JOHNSON & CO., Evansville, Ind., U.S.A.

"We are Keeping the Faith"





Thou driftest gently down the tides of sleep.—LONGFELLOW

ORTAL SODIUM

The New
BARBITURIC
HYPNOTIC

Ortal Sodium is accepted for N. N. R. by the Council on Pharmacy and Chemistry of the American Medical Assn.

ORTAL SODIUM—the result of ten years of research in the Parke-Davis laboratories—is an effective rapidly-acting hypnotic; it induces sound, restful sleep, so necessary in a wide variety of physical and mental disorders. Ortal Sodium has low toxicity, and its use is free from unpleasant hang-over effect.

The effective hypnotic dose in most cases is one or two capsules.

Samples to physicians on request.

Supplied in
bottles of 25, 100
and 500 3-grain
capsules.



Parke, Davis & Co. **DEPENDABLE MEDICATION
BASED ON SCIENTIFIC RESEARCH**

Mention our Journal — it identifies you.

THE RHODE ISLAND MEDICAL JOURNAL

The Official Organ of the Rhode Island Medical Society
Issued Monthly under the direction of the Publication Committee

VOLUME XVII }
NUMBER 5 { Whole No. 296

PROVIDENCE, R. I., MAY, 1934

PER YEAR \$2.00
SINGLE COPY 25 CENTS

ORIGINAL ARTICLES

THE TREATMENT OF NEUROSYPHILIS*

A SUMMARY AND EVALUATION OF METHODS USED DURING THE PAST TEN YEARS

By WILLIAM NEWTON HUGHES, A.M., M.D.
112 WATERMAN STREET, PROVIDENCE, R. I.

In discussing the treatment of neurosyphilis I shall make no attempt to cover all its phases or to claim any originality for ideas or treatment. I shall give no references and shall appreciate it if this paper is considered simply as representing what has passed the censorship of my conscious and unconscious fund of experience and knowledge. Many physicians of Rhode Island have contributed to this fund in a more vital way than any person whose article I might cite from the literature.

It is difficult to describe the treatment which I use, because it is different in almost every case. My office records show that practically no two patients have been treated alike. Treatment is modified to fit the patient and frequently some new knowledge or experience has modified my underlying ideas and altered the treatment. The most important thing to me is to be very sure not to make the patient sicker than he is, nor to make him lose his job or his self respect through my diagnosis and treatment. If I can find out early, what he fears will be the effect of syphilis or its treatment upon himself, his family, or his future family, I can often change his false ideas and save him much worry and myself much difficulty in dealing with him.

A complete diagnostic survey is very important before any actual treatment is given. This will include a careful physical examination which checks other systems of the body as well as the nervous system. Examinations of teeth, eyes, heart, liver, and kidneys are perhaps most important. Blood Wassermann examination and spinal fluid studies are invaluable at the beginning, and they are re-

peated occasionally during the treatment to show how the patient is progressing serologically. The physical and neurological examination also should be checked at times during treatment.

As I look back over the past ten years, there is no doubt in my mind that the treatment of neurosyphilis has improved almost as much as the treatment of diabetes and certainly more than the treatment of common colds. In 1922-1924 our armamentarium in treating neurosyphilis consisted of neoarsphenamine, mercury, iodine, and the injection intraspinally or into the ventricles or the cisterna magna of blood serum or spinal fluid modified by these drugs—the so-called Swift-Ellis technique or some modification of it. About the same time spinal drainage was done occasionally after intravenous neoarsphenamine injection. The Swift-Ellis technique or some modification of it is still of value in certain resistant cases of neurosyphilis and gives fairly rapid results, but I have not found it necessary to use it for several years. At the present time the majority of doctors treating neurosyphilis use this type of treatment rarely, if at all. In 1924-1926 sulpharsphenamine seemed the drug of choice and bismuth replaced mercury. Soon neoarsphenamine replaced sulpharsphenamine because of the possibility of dangerous and fatal skin reactions from the latter drug. No serious skin difficulties were encountered in my use of sulpharsphenamine (due, I think, to the use of only clear filtered solutions) and this drug was dropped as a routine measure because of fear of obtaining results similar to those which were being reported in the literature.

Since sulpharsphenamine can be given intramuscularly without much discomfort, it is still the drug of choice in treating children, and those adults whose veins are such as to render intravenous treatment impractical. The technique of giving it intramuscularly improved greatly within about a year after I started to use it. If it is mixed in a few tenths of a cubic centimeter of water, it will give much less discomfort than if it is mixed in a larger quantity of water as was first advised in the literature enclosed with the drug. At the present

*Read before the Providence Medical Association, Providence, R. I., December 4, 1933.

time, even though the literature enclosed with the drug advises the use of only a few tenths of a cubic centimeter of water, many physicians still give the drug in the same old way despite the added discomfort to the patient. There is no doubt that there is much less discomfort with the use of a smaller amount of water and it would not take many injections to prove it to any doctor or any patient. It pays occasionally to read the literature which comes with the drug which is being used.

Bismuth replaced mercury because of its greater efficacy and because it is much less painful. At first I used each week potassium bismuth tartrate intramuscularly in one-tenth gram doses up to three to five doses, and then two-tenths gram doses up to a total of 1.5 to 2.5 grams. The first few injections were usually the most painful. The potassium bismuth tartrate was not used unless it was well dissolved and warm at the time of injection. Gradually I changed to another insoluble preparation, mesurol Winthrop, one cubic centimeter each week, as it is less painful and easier to use. It comes in ampules which are more liable to cut the doctor's fingers when they are opened than the potassium bismuth tartrate ampules, but it also comes in fifteen gram jars, which I find very satisfactory. Bismocymol is another insoluble bismuth preparation which can be used in place of mesurol. I have used in a few cases the soluble bismuth preparations, thiobismol, P. D. & Co., and bismuth sodium tartrate Searle. The thiobismol powder has to be dissolved in one cubic centimeter of water and its disagreeable skunk-like odor makes it rather undesirable for office use. The bismuth sodium tartrate is given in two cubic centimeter doses. The soluble bismuth preparations are supposed to be given two or three times a week, but except in a few cases at the beginning of treatment, I have given them once a week and then only as mild treatment for patients whom I did not wish to overtreat. They are much less painful than the insoluble preparations, but they will give a prompt and severe reaction if the patient is intolerant to bismuth. They can not be used as a milder form of treatment, if the patient is beginning to show signs of intolerance to insoluble bismuth preparations. I have used to a very slight extent combinations of iodine and bismuth such as rubyl, tartro-quinibine Spicer and iodobismitol Squibb. They are given in two cubic centimeter doses. The first two give about as much discomfort to the patient as mesurol and are used

in very much the same way. I rarely use them because they are oily, red preparations which are difficult to remove from a syringe or from other things with which they may come in contact in the office. Iodobismitol is also red, but it is not oily. It is supposed to be given two or three times a week, but I have used it in exactly the same way as I have used the soluble bismuth preparations.

Mercury is still of value in cases intolerant to bismuth, but it is of most value in cases intolerant both to bismuth and the arsphenamines. If the patient is intolerant to bismuth, an arsphenamine may be tolerated and mercury is probably not necessary, though I tend to use it occasionally in such cases. If neither bismuth nor the arsphenamines are tolerated, mercury is the only drug available in addition to iodine to protect against syphilitic visceral and dermal involvement.

Iodine by mouth has been used intermittently in most cases of neurosyphilis during the past ten years and I still use it. Many neurosyphilitic patients can take very little of it without developing acne, rhinitis, or nausea, but most of them can take it for a few days each month. I have used essentially no intravenous sodium iodide solution as iodine seems to me just as effective by mouth.

The arsphenamines are of value chiefly in protecting against syphilitic visceral and dermal involvement, but bismuth is almost as good. Bismuth seems to me a safer drug for neurosyphilis and I tend to use more bismuth than arsphenamines. I always feel in using arsphenamines in neurosyphilis that I have a stick of dynamite hanging over my head. I use some arsphenamines in almost all cases, but I use much more bismuth. I prefer small doses and short courses of arsphenamines. I have had much more trouble with the arsphenamines than with bismuth or tryparsamide.

In about 1925 tryparsamide was added to the neurosyphilitic armamentarium. I used it at first in psychotic patients cautiously and with great fear and trembling because it was pentavalent arsenic with a penchant for the optic nerves. Routinely before each injection fundus examinations and rough peripheral fields were done and questions were asked in regard to subjective visual symptoms. Gradually timidity disappeared and I used tryparsamide in other types of neurosyphilitic patients. In a short time rough peripheral fields and fundus examinations were done only before the first injection, but questions in regard to subjective

visual symptoms, such as dimness or blurring of vision, flashes of light or jumping of sparks before the eyes, were asked before each injection, usually jokingly in a negative way to avoid the production of symptoms through suggestion. Neoarsphenamine was still the drug of choice in the majority of cases, but tryparsamide was considered the drug of choice in all cases with mental symptoms of any sort. Short courses of bismuth were given along with the tryparsamides or during intervals between courses of neoarsphenamine and tryparsamide.

In about 1929 bismarsen was added and it was used in certain cases in preference to arsphenamines, tryparsamide, and bismuth. It is a powder which has to be dissolved in a special vehicle which comes with it and it is given intramuscularly in two-tenths gram doses every four or five days. It is perhaps slightly more efficacious than sulpharsphenamine or bismuth alone, but it seems to be more painful than mesurol and slightly less painful than sulpharsphenamine. Possibly from all intramuscular types of treatment there is a certain amount of non-specific therapy in addition to the effect of the drug used. Tissue protein destroyed by the particular drug injected may produce such an effect, though, of course, the value of it can not be measured. I consider bismarsen of most value in Wassermann-fast cases and in tabetic and other neurosyphilitic patients whom it is not advisable to treat too strenuously.

Around 1929 malaria therapy or other types of fever therapy became generally accepted as the best type of treatment for mental cases which needed hospitalization. When compared with tryparsamide, it cost less, took less time to produce its effects, and gave about the same percentage of favorable results. For cases in which it was contraindicated, or for cases which did not require hospitalization, arsphenamines, bismuth, and tryparsamide still remained. Some neoarsphenamine, some bismuth, some tryparsamide, and some iodine were given to the majority of neurosyphilitic patients.

About 1930 electrical devices to produce fever were used in treating neurosyphilitic patients with mental symptoms in various research hospitals. The favorable results obtained were on the whole comparable to those obtained with malaria therapy. Such electrical methods of producing fever, as are now available, are expensive and require specially trained medical and nursing personnel. Severe burns, marked symptoms of meningeal irritation,

and even deaths have resulted from errors in technique. However, though these devices do not require hospitalization as malaria therapy does, I consider them at the present time chiefly experimental and not nearly as valuable as malaria therapy and tryparsamide.

During the early part of 1932, tryparsamide became the drug of choice in all cases of neurosyphilis, and malaria the best type of treatment for hospitalized cases who showed no contraindications to it. The percentage of improvement is essentially the same with either type of treatment. Malaria therapy, though less expensive and time consuming, is somewhat more dangerous than tryparsamide. There are no deaths with tryparsamide treatment, essentially no contraindications, and practically only one complication, interference with vision in about three percent of the cases. With malaria therapy, there is a small mortality, many contraindications to treatment, and frequently serious complications. Usually tryparsamide treatment follows the malaria. Malaria therapy appears to check the neurosyphilitic process more rapidly than tryparsamide and for this reason it is often used in cases which show no mental abnormality. However, since it requires hospitalization with absence from work and carries with it the possibilities of fatality and complications, I advise it chiefly for cases which are abnormal mentally and prefer tryparsamide for almost all neurosyphilitic cases who are normal mentally unless they are intolerant to it or do poorly with it. Cases, advancing despite tryparsamide, receive malaria therapy and cases who do not do well with malaria receive tryparsamide.

Tryparsamide is perhaps the only drug required in neurosyphilis for those cases which tolerate it. Alone without other types of treatment it gives as large a percentage of recovery and as complete a recovery as can be obtained by any known methods. It seems to be the only drug necessary in neural involvement. However, while the patient's nervous system is getting well through the use of tryparsamide, visceral and skin syphilis may develop and progress. Tryparsamide has little, if any, effect on visceral and skin syphilis and it will not stop in any way the progress of therapeutic malaria. Neoarsphenamine will stop therapeutic malaria in much the same way as quinine, only much more rapidly. The arsphenamines and bismuth and mercury have a very definite effect on visceral and skin syphilis. Because of these facts and because the

doctor treats the patient and not just the neural involvement, courses of bismuth or neoarsphenamine or mercury are given occasionally to protect the viscera and skin against syphilitic involvement. Usually bismuth and neoarsphenamine are given at some time or other to most neurosyphilitic patients in addition to tryparsamide. If bismuth is not tolerated, neoarsphenamine or mercury or both are used. I tend to use both. If the arsphenamines are not tolerated, bismuth, mercury, or both are used. I often omit the mercury. I have encountered no cases intolerant to mercury, probably because I have used so little mercury. When I do use mercury, I usually give mercury salicylate grains one intramuscularly every week for fifteen or sixteen injections. I do not feel as badly as I used to, if I cannot use the arsphenamines, but I do not like to find bismuth intolerance since bismuth is cheap, easy to give, and practically without danger. If bismuth and the arsphenamines are not tolerated (and this is more often than you might suspect in neurosyphilitic cases) mercury, as previously stated, is the only drug available in addition to iodine to protect against syphilitic visceral and dermal involvement. If the patient will not accept mercury intramuscularly because of pain, I do not worry very much as long as I still can use tryparsamide. I then occasionally give mercury and iodine by mouth in pill form or in solution, and at times use mercury by inunction in the form of mercurrettes P. D. & Co.

I shall summarize briefly some of the improvements in neurosyphilitic therapy which have been generally adopted during the last ten years—sulpharsphenamine, bismuth, tryparsamide, bismarsen, and malaria or other types of fever therapy.

Tryparsamide is the most valuable drug which we have in the treatment of neurosyphilis and it is the main reliance in most cases. It is very safe and produces interference with vision in only about three per cent of cases. Most of these are transient and only about one per cent of cases develop optic atrophy. If interference with vision does not occur after the first three of four injections, apparently the drug can be given at weekly intervals almost indefinitely. I usually give one and one-half grams at the first injection and three grams at all other injections. Tryparsamide is a white crystalline powder which can be dissolved quickly in ten to twenty cubic centimeters of water by moderate

agitation. Only occasionally is it necessary to filter it to remove foreign particles.

In starting treatment in a neurosyphilitic case, I give potassium iodide by mouth and injections of bismuth and tryparsamide on the same day once a week. In four or five weeks bismuth is omitted and tryparsamide and potassium iodide continued. About once or twice a year during the continuance of tryparsamide injections or during a rest period, bismuth is given in weekly doses up to a total of one and a half to two and a half grams. Tryparsamide is given weekly for a variable number of injections, usually up to a total of fifty. Occasionally, as treatment progresses, a short rest period is given during which bismuth or neoarsphenamine is administered.

Bismuth, arsphenamines, mercury, bismarsen, and potassium iodide seem inefficient in neurosyphilis as far as can be determined from statistics. At the present time I am not sure whether or not they are necessary in the average case, though I still tend to use them in the hope that they will prevent visceral and dermal manifestations, such as might occur in certain cases. They will protect as far as possible those exceptional cases who during or after tryparsamide treatment might develop clinical visceral and skin syphilis. These drugs also check visceral and skin syphilitic processes which may not be evident clinically, though they may lower the individual's efficiency and sense of well being.

I believe firmly in giving regular and continuous antisiphilitic treatment without vacations. The patient is always under treatment. I try to extend the treatment over a four year period and in the average case without complications to give fifty injections of bismuth, fifty injections of neoarsphenamine, and fifty injections of tryparsamide. After about fifty injections, the tryparsamide is given every two weeks instead of weekly and then the time between injections is gradually increased three, four, five weeks or even two or three months, depending upon how well the patient is doing. According to my own experience and according to the literature such a procedure best protects the patient against any syphilitic relapse, neural, visceral, or dermal.

Private patients with neurosyphilis in my experience have been exceptionally difficult to treat. I have found many of them in the past intolerant to bismuth, arsphenamines, and even iodine. Sensi-

tiveness to iodine medication was mentioned previously. Up to the present time I have had no difficulty in using mercury and the cases intolerant to other drugs usually stand it well. I have seen bismuth intolerance manifested by gingivitis, with bismuth-stained gums and loosening of the teeth after one-tenth gram of potassium bismuth tartrate intramuscularly and in other cases after the second, third, and fourth injections of bismuth or at the beginning of the second course of bismuth. Usually bismuth intolerance is shown by gingivitis with bismuth-stained, receding gums, but occasionally it is shown by bismuth-stained areas one to two centimeters in diameter on the mucous membranes of the mouth, tonsils, or throat similar to those seen about the teeth. Gastric discomfort with slight nausea and anorexia is perhaps the second most common sign of bismuth intolerance. General weakness is next in order of frequency. I have seen as other signs of intolerance to bismuth generalized itching with or without a generalized, slightly raised, red maculo-papular eruption, lumbar backache, abdominal cramps, diarrhea, albumen in the urine, headaches and bleeding from the mucous membranes of the mouth. Usually these symptoms occur toward the end of a bismuth course and usually only one symptom occurs in an individual case. I have seen one generalized bismuth reaction with chills, fever, headache, backache, and generalized aches—the so-called bismuth grippe. Urine examinations have been made frequently during bismuth courses, but albumen and casts have been found rarely and then not associated with other signs of bismuth intolerance. Apparently the desired amount of bismuth can be given or some symptom of intolerance will usually appear before kidney irritation is shown through an examination of the urine. When any symptom of bismuth intolerance appears, bismuth is, of course, stopped immediately. Signs of bismuth intolerance or poisoning have promptly disappeared after cessation of bismuth treatment and I have never seen a patient who has had to stop work because of them.

Intolerance to arsphenamines is more common in neurosyphilis than in other types of syphilis, probably because of the greater age of the patient and his disease. It may be shown by the so-called nitritoid crisis with substernal oppression, choking, generalized flushing of the skin, nausea, vomiting, and even petechiae. All too often it is shown by

dermatitis. Before a frank dermatitis occurs, there is usually itching, at first on the arms or lower legs and then generalized. Formication in hands or feet may precede it, especially if neoarsphenamine is the drug used. Nausea, or nausea and vomiting toward the end of a course of arsphenamines may also precede it. It pays to heed these signs and discontinue arsphenamines. Even a slight generalized dermatitis should be treated seriously, as it might be followed by severe itching, generalized edema, sloughing, superficial infection, and even death. With any evidence of dermatitis I give daily, sodium thiosulphate by mouth and intravenously until I am certain that the inflammation is subsiding. Then I give it every other day and gradually increase the interval between injections. It is continued orally for some time after intravenous treatment has been stopped. Formerly I never gave arsphenamine again to a case who had had arsenical dermatitis, but within the last year I have used the patch test on one patient intolerant to bismuth, arsphenamine, and tryparsamide and on one patient intolerant to bismuth and arsphenamine in the hope that I might give arsphenamines again. To do the patch test, three-tenths of a gram of neoarsphenamine is dissolved in one cubic centimeter of water. A small piece of linen about one and one-half centimeters is dipped in this solution and applied to an area on the arm or leg which has been aseptically prepared by washing with ether. A two-inch piece of tracing cloth is put over this and held in place by adhesive plaster. If dermatitis appears under the linen patch in twenty-four to forty-eight hours as shown by itching, intensely inflamed papules or vesicles, arsphenamines are not given again. If no skin irritation or only slight irritation occurs, arsphenamines may be tried cautiously in one-tenth gram doses and gradually increased one-tenth gram each week if no signs of intolerance appear. The first patient gave a positive patch test, and has not been given arsphenamine again. The second patient gave a negative patch test, but developed on the third week about two hours after three-tenths of a gram of neoarsphenamine intravenously a so-called arsphenamine grippe with headache, chills, fever, hot and cold feelings, nausea, and vomiting. This reaction might be considered an anaphylactic phenomenon brought about by a sensitization of certain substances in the blood, probably the platelets. This particular patient was also intolerant to bismuth and had the only case of "bismuth grippe" which I

have seen. He had a slight nitritoid crisis on the first neoarsphenamine injection and during the fourth or fifth injection of his second course developed a mild arsenical dermatitis. Despite these reactions, he has never lost a day's work because of his treatment and he can take tryparsamide and mercury very well. I have found a negative patch test on two patients with nitritoid crisis. In an outpatient case with nitritoid crisis, I resumed neoarsphenamine in one-tenth gram doses after a negative patch test. On the second week she developed a severe nitritoid crisis with petechiae after a two-tenth gram dose and had to be hospitalized for twenty-four hours. As an added precaution she had been given one one-hundredths grain of atropin sulphate by mouth one-half hour before her intravenous treatment. At the present time I think that it is a good policy, at least as far as neurosyphilis is concerned, not to attempt to resume arsphenamines in cases of severe nitritoid crisis.

I have seen two patients with bleeding from the mucous membranes of the mouth and one with purpuric spots on his skin after neoarsphenamine. I feel that no attempt to resume arsphenamines should be made in these patients.

I have seen no Herxheimer reactions with a sharp increase in local neurosyphilitic symptoms after arsphenamine or after bismuth.

I have seen wrist drop and foot drop which I considered due to arsenical neuritis, but fortunately I have not produced it. However I hold neoarsphenamine responsible for a case of herpes zoster, which occurred in my practice. This as well as the peripheral neuritis might have been due to neurosyphilis, but I feel that both were due to treatment. Perhaps this short account of arsphenamine reactions will show why I believe that arsphenamines should be handled with care in neurosyphilis.

Tryparsamide intolerance is reported in the literature as being shown subjectively by dimness or blurring of vision, flashes or streaks of light or scintillating sparks before the eyes, and objectively by optic atrophy. I have given over two thousand tryparsamide injections and I have found only one patient who showed any evidence of tryparsamide intolerance. This patient was a tabetic weaver who after the third injection noticed that her loom seemed to move up and down as though she were dizzy. A week later she described something like a halo of light before her eyes. Tryparsamide

was stopped and her symptoms disappeared in a few days. After several months I gave her tryparsamide again at two week intervals, as she was intolerant to bismuth and arsphenamines, and no tryparsamide intolerance recurred. At the present time she has no subjective or objective evidence of visual damage. A few months ago at the neurosyphilis clinic of the Rhode Island Hospital three women who had been given much tryparsamide developed blurring of vision within a short time after the internes started to give the injections. This was disconcerting, but in a few weeks the blurring was found to have developed from group suggestion, as the three women had discussed among themselves the questions asked by the internes in regard to blurring of vision, dimness of vision, et cetera. When the women were told not to discuss their treatment or symptoms, the blurring quickly disappeared and tryparsamide was continued without any further difficulty.

I have noticed no evidence of gastro-intestinal or skin intolerance to tryparsamide. I have given it to several patients who have had an arsphenamine dermatitis and have never had any difficulty, even though I have given as many as 68 injections to one such patient. I know of no evidence of arsenical neuritis other than optic atrophy following tryparsamide. If intolerance is not shown within the first three or four injections by some interference with vision, tryparsamide, according to the literature, can be given in full doses at weekly intervals almost indefinitely. My own experience has been in accord with this view and I consider tryparsamide a very safe drug to use in neurosyphilis.

Summary

In neurosyphilis, treatment is modified to fit the patient. It is important not to make him sicker than he is nor to make him lose his job or his self-respect.

A complete diagnostic survey should precede treatment and physical, neurological, and serological examinations should be checked at times during treatment.

During the past ten years sulpharsphenamine, bismuth, tryparsamide, bismarsen, and malaria or other types of fever therapy have been generally adopted as additions to the neurosyphilitic armamentarium.

In the average case of neurosyphilis without complications treatment is extended over a four

year period and consists of fifty injections of bismuth, fifty injections of neoarsphenamine, and fifty injections of tryparsamide. According to my experience and according to the literature such a procedure best protects the patient against any syphilitic relapse, neural, visceral or dermal.

Tryparsamide and malaria therapy check neurosyphilis better than bismuth, arsphenamines, mercury, and iodine, but these latter drugs have their place in checking visceral and dermal syphilis and they are of value if tryparsamide intolerance and contraindications to malaria therapy are present.

Tryparsamide is the most valuable drug in the treatment of neurosyphilis at the present time and gives essentially the same favorable results as obtained by malaria therapy. It can be given by weekly injection almost indefinitely. After fifty injections it is given at increasing intervals.

Malaria therapy is advised for cases abnormal enough mentally to be hospitalized.

Tryparsamide is preferred for almost all other cases of neurosyphilis.

Cases, advancing despite tryparsamide, received malaria therapy.

Cases who do not do well with malaria receive tryparsamide.

Signs of intolerance to bismuth are often noted, but they cease on discontinuing the drug and are not serious. Bismuth is safer than arsphenamine to use in neurosyphilis.

Signs of intolerance to arsphenamines occur frequently and they should be regarded as of serious import.

Signs of tryparsamide intolerance are rare and almost negligible.

INJURIES TO THE COCCYX*

By HENRY McCUSKER, M.D.

106 WATERMAN STREET, PROVIDENCE, R. I.

Injuries to the coccyx often cause symptoms which are very disabling, and difficult to relieve. Such injuries are encountered fairly frequently in general practice, obstetrics, traumatic and orthopedic surgery, and in industrial accident work. Yet careful search of the medical literature discloses very few contributions during recent years. Even

the text-books pass over this topic with a few general statements. The purpose of this paper is to present seven cases—each showing a different type of injury to the coccyx—and to outline the treatment employed in these cases.

The fully developed coccyx is about $1\frac{1}{4}$ " in length and 1" in width at the upper end, tapering downward to about $\frac{1}{4}$ " in width at the tip. It is usually made up of four segments (rudimentary vertebrae) which gradually fuse with each other as age advances. According to *Gray's Anatomy* "fusion between the first and second segments is frequently delayed until the age of twenty-five or thirty." The coccyx is held firmly to the sacrum by a group of short tough ligaments. The coccyx and sacrum are occasionally found fused, but usually a disc of fibrocartilage separates these two bones, and in some instances a synovial membrane is present—notably in women during pregnancy—which fact renders the coccyx more freely movable at the sacrum during delivery. Normal motion between the coccyx and the sacrum and between the different segments of the coccyx is through a very limited range and it is in the forward and backward directions only. During pregnancy this range of motion is increased.

On the pelvic surface of the coccyx are inserted some of the fibers of the Levator Ani muscle, while into the lateral borders are inserted the Coccygeal muscles. These muscles form part of the pelvic diaphragm and help to support the pelvic viscera. On the posterior surface originates part of the Gluteus Maximus muscle, while from the tip arises a portion of the Sphincter Ani Externus muscle, which muscle helps to keep the anal orifice closed. No nerves pass through the coccyx. The anterior division of the fifth sacral nerve enters the pelvis between the sacrum and the coccyx, while the coccygeal nerve curves around the rudimentary transverse process of the upper segment of the coccyx. Over the posterior surface of the coccyx runs the coccygeal branches of the Inferior Gluteal artery.

In direction, the coccyx follows the elliptical curve of the lower segments of the sacrum—downward and gradually forward. There are many variations from the normal curve, but if this curve is sharply exaggerated forward or backward, symptoms may arise. In most instances this displacement follows some direct violence—usually a fall upon the buttocks, a kick, a blow, or it may

*Read before the Providence Medical Association, November 6, 1933.

occur during parturition. In the latter case the displacement is posterior, and according to Hirst it is due to the backward pressure during delivery which sometimes causes rupture of the sacro-coccygeal ligaments, dislocation, and occasionally fracture. When the displacement is due to external violence it is usually in the anterior direction and fracture is the common complication. Injuries to the coccyx are more common in women than in men, possibly because in men the coccyx is placed higher and it is guarded by the ischia which are in closer approximation. The entire coccyx is more rugged in the male than in the female.

Injuries to the coccyx may cause long lasting disturbances, the most common of which is coccygodynia—an intractable type of neuralgia in the region of the coccyx, aggravated by walking, sitting, riding, coughing, and straining during defecation or coitus. This pain may become so severe that the patient is rendered unable to perform any gainful work. Constipation is a frequent after-effect and is usually due to postponement of the painful stool. Loss of weight is a common symptom in the more persistent type of coccygodynia. Forrester states "Patients suffering from this injury sometimes become neurotic." In cases where there is a real injury, external pressure on the coccyx will cause severe pain referred along the 5th sacral and coccygeal nerves.

Position, contour, and extent of mobility of the coccyx can be determined by digital examination intrarectally. It is often difficult to differentiate between a fracture and a dislocation of the coccyx by rectal manipulation, but the direction and extent of luxation can be established by this maneuver. Careful X-ray examination is then very important as a check on the findings made by rectal examination. A good lateral film is particularly desirable to determine the presence or absence of abrupt irregularity in the curve at one of the intersegmental joints—roentgenological evidence of a luxation. In reading the films, the interpreter must guard against being deceived by anatomical variations.

CASE 1—*1-Shaped Fracture of Proximal Segment with Anterior Luxation*

Miss A. M., age 45, mill worker. Two months prior to the first examination she injured the lower end of her spine when she fell on cement steps. Pain in the region of her coccyx became progressively more severe and two weeks after her injury she was

forced to quit work. Coccygodynia was aggravated by sitting, walking, and climbing stairs. She also complained of severe pain during defecation with a feeling of frequency of stools. She gave a history of occasional hysterical outbursts during the preceding twelve years. Examination showed tenderness to pressure over the coccyx and some thickening over the sacro-coccygeal area. On rectal examination no crepitus could be made out but the coccyx was felt to be in forward luxation, and when manipulated posteriorly caused intense pain. On X-ray examination, in the antero-posterior view "a fairly definite 1-shaped fracture could be seen extending laterally between the first and second segments of the coccyx and vertically through the middle of the first segment into the sacro-coccygeal articulation." Conservative treatments were tried over a period of four weeks but gave no relief. The coccyx was then excised. The coccyx was found displaced anteriorly at the junction of the first and second segments. The first segment was found to be markedly widened and there was extensive new bone formation and irregularity in contour of this segment. Following operation she made a good recovery and has had no symptoms in the spine during the past five years.

CASE 2—*Fracture and Anterior Dislocation of the Distal Segment. Lateral Deviation of the Coccyx.*

Miss F. C., age 23, telephone operator. In November of 1929 she fell on a concrete step at her home and injured "the tip of the spine." Excepting for "soreness over the tip of the spine" she had no immediate symptoms, but after several weeks the pain over the coccyx gradually increased until work as a telephone operator became increasingly more difficult. She had treatment of various sorts by various doctors in her own city—all without relief. When I saw her in December, 1930, she had lost 15 pounds (her normal weight was 124 pounds). She complained of constant severe pain localized over the coccyx and intensified by walking and long periods of sitting. Defecation aggravated her symptoms and she had resorted to the use of frequent enemata. Rectal examination revealed the tip of the coccyx pressing firmly against the posterior wall of the rectum, tilted toward the left, and showing increased mobility in the antero-posterior direction, with extreme tenderness to pressure. X-ray examination showed "the distal segment rather widely

separated and in anterior displacement. It would appear to have undergone a fracture-dislocation." At operation the coccyx was found tilted toward the left with the distal segment projecting directly anteriorly and united to the main body of the coccyx at almost a right angle position. The tip of the coccyx was in direct contact with the wall of the rectum and had produced an erosion through part of the wall. A few days ago this patient told me she has had no symptoms since the operation.

CASE 3—Fracture and Posterior Dislocation of the Distal Segment.

Mr. E. G., age 42. On September 10, 1932, while at work he struck the lower end of his spine against some machinery. X-ray examination made soon after the injury showed some separation of the segments and a rotation of the distal segment posteriorly. Examination of the coccyx externally showed a prominence over the distal end—tender to slight pressure. By rectal examination the tip of the coccyx seemed displaced backward and on manipulation it was found to be fixed in that position. After three weeks of conservative treatment during which time his symptoms became more severe, resection of the coccyx was done. The excised coccyx showed the fourth segment rotated posteriorly on the 3rd and considerable enlargement of the coccyx at the junction of the 3rd and 4th segments. Four weeks after operation the patient returned to work as a machinist, and has had no recurrence of symptoms.

CASE 4—Dislocation at the Sacro-Coccygeal Joint, Anterior Luxation of the Coccyx.

Miss A. G., age 15. Admitted to a local hospital May 11, 1933, complaining of severe pain in the region of the coccyx. She stated that two years previously she fell and struck the tip of her spine against the sharp edge of a chair. Adhesive strapping of her buttocks gave some relief. Eight months prior to admission she fell heavily in the sitting position and again injured "the tip of the spine." She was treated at the out-patient clinic where many types of treatment were tried, but the pain became continuous and persistent, especially after short periods of sitting and during defecation. Rectal examination suggested anterior displacement of the coccyx with tenderness throughout the coccygeal region. X-ray examination showed "a sharp angulation of the entire coccyx with no fracture visible." At operation the coccyx was found

tilted sharply anteriorly at the sacro-coccygeal junction. There was a considerable amount of dense fibrous tissue about the sacro-coccygeal articulation. Recent examination showed no tenderness over the site of operation, and the patient states she is having no painful symptoms.

CASE 5—Persistent Traumatic Coccygodynia.

Miss D. McC., age 21, no occupation, presented herself for treatment in July, 1930. She complained of "pain in the lower end" of her spine while sitting and walking. One week previously, while playing on the beach, she fell on a rock and injured the tip of her spine. Examination showed tenderness over the coccyx and some hypermobility at the sacro-coccygeal joint. No actual deformity could be made out by rectal or X-ray examinations. Strapping of the buttocks, constant use of a rubber ring while sitting, radiant heat and other types of physiotherapy were tried—but gave no lasting relief. She lost weight and became emotionally upset at times. In January, 1931, the coccyx was excised and at operation the periosteum about the distal segment appeared noticeably thickened and difficult to dissect. Prompt and lasting relief of symptoms followed the operation.

CASE 6—Hypermobile Coccyx.

Miss E. G., age 19, clerical worker. Nine months previous to her first examination by the writer, she accidentally struck the tip of her spine against the corner of a low shelf. One month later she sought medical attention because of the persistency of severe pain in the region of the coccyx. On several occasions she consulted different physicians for the same symptoms but admits she carried out no regular plan of treatment. On March 9, 1929, when I first saw her, she was complaining of pain over the coccyx, not constant but aggravated by certain activities like climbing stairs and taking long strides while walking. Examination showed considerable tenderness over the entire coccyx but especially over the sacro-coccygeal junction. Rectal examination showed no deformity or displacement of the coccyx, but did show a considerable increase in the range of motion in the anterior and posterior directions, and some lateral mobility toward the left. Under conservative treatment, regularly applied over a period of six weeks, the symptoms gradually subsided. In answer to a recent letter, she states she has had no recurrence of symptoms.

(Continued on page 81)

THE RHODE ISLAND MEDICAL JOURNAL

Owned and Published by the Rhode Island Medical Society
Issued Monthly under the direction of the Publication Committee, 106 Francis Street

FREDERICK N. BROWN, M.D., *Editor*
309 Olney Street, Providence, R. I.

CREIGHTON W. SKELTON, M.D., *Business Manager*

ASA S. BRIGGS, M.D.
ALEX M. BURGESS, M.D.
W. LOUIS CHAPMAN, M.D.
PAUL APPLETON, M.D.
WILFRED PICKLES, M.D.
NORMAN M. MCLEOD, M.D.
ALBERT H. MILLER, M.D.
DENNETT L. RICHARDSON, M.D.
GUY W. WELLS, M.D.
F. B. LITTLEFIELD, M.D.

Associate
Editors

Committee on Publication

FREDERICK N. BROWN, M.D., *Chairman*
C. W. SKELTON, M.D.
HENRY W. HOPKINS, M.D.
President and Secretary, ex-officio

Advertising matter must be received by the 10th of the month preceding date of issue.

Advertising rates furnished upon application to the business manager, CREIGHTON W. SKELTON, M.D., 106 Francis St., Providence, R. I.
Reprints will be furnished at the following prices, providing a request for same is made at time proof is returned: 100, 4 pages without covers, \$6.00; each additional 100, \$1.00; 100, 8 pages, without covers, \$7.50; each additional 100, \$2.80; 100, with covers, \$12.00; each additional 100, \$4.80; 100, 16 pages, without covers, \$10.50; each additional 100, \$3.00; 100, with covers, \$16.00; each additional 100, \$5.50.

SUBSCRIPTION PRICE, \$2.00 PER ANNUM, SINGLE COPIES, 25 CENTS.
Entered at Providence, R. I. Post Office as Second-class Matter.

RHODE ISLAND MEDICAL SOCIETY

Meets the first Thursday in September, December, March and June

CHARLES S. CHRISTIE	<i>President</i>	West Warwick
ALBERT H. MILLER	<i>1st Vice-President</i>	Providence
ROLAND HAMMOND	<i>2nd Vice-President</i>	Providence
J. W. LEECH	<i>Secretary</i>	Providence
J. E. MOWRY	<i>Treasurer</i>	Providence

DISTRICT SOCIETIES

KENT

Meets the second Thursday in each month

DR. JOHN A. MACK	<i>President</i>	West Warwick
DR. L. J. SMITH	<i>Secretary</i>	Buttonwoods

NEWPORT

Meets the second Thursday in each month

JOHN RIDLON	<i>President</i>	Newport
ALFRED TARTAGLINO	<i>Secretary</i>	Newport

R. I. Ophthalmological and Otolological Society—2d Thursday—October, December, February, April and Annual at call of President.
Dr. Robert C. O'Neil, President; Dr. N. A. Bolotow, Secretary.

The R. I. Medico-Legal Society—Last Thursday—January, April, June and October, Archibald C. Matteson, President; Dr. Jacob S. Kelley, Secretary-Treasurer.

PAWTUCKET
Meets the third Thursday in each month excepting
July and August

J. LINCOLN TURNER	<i>President</i>	Pawtucket
HENRY J. HANLEY	<i>Secretary</i>	Pawtucket

PROVIDENCE

Meets the first Monday in each month excepting
July, August and September

CHARLES F. GORMLY	<i>President</i>	Providence
P. P. CHASE	<i>Secretary</i>	Providence

WASHINGTON

Meets the second Wednesday in January, April,
July and October

E. E. KENVON	<i>President</i>	Kingston
JOHN CHAMPLIN, JR.	<i>Secretary</i>	Westerly

WOONSOCKET

Meets the second Thursday in each month excepting
July and August

W. A. BERNARD	<i>President</i>	Woonsocket
T. S. FLYNN	<i>Secretary</i>	Woonsocket

EDITORIALS

THE MEDICAL CONVENTION

From her very beginning Rhode Island has nurtured a tradition of independence which is a matter of pride in the minds of her people. Nevertheless, in these days, when co-operation in all things is so sorely needed, too great an emphasis on independence in almost any field of endeavor may be a detriment to progress. This is especially true in the field of medicine, in which provincialism and inefficiency must inevitably result from a policy of isolation.

ciency must inevitably result from a policy of isolation.

With no implication of a sacrifice of independence in thought or action, the physicians of Rhode Island should consciously endeavor to maintain touch in an effective way with the rest of the profession. Without the benefits of a local medical school and the wide contacts which the presence of such a school involves, with our own relatively small State and district societies and, in contradistinction to our sister States in New England, our own independent JOURNAL, there is a real danger that we shall become mentally inbred. To offset

this, outside medical contacts must be encouraged. This is to some extent brought about when we import distinguished members of our profession to address our meetings or visit our hospital wards. In another and equally valuable manner the same end is accomplished when individually or in groups we leave the narrow confines of our State to keep touch with our colleagues elsewhere.

One method of keeping our medical contacts bright is by attendance at medical meetings and conventions. Of these there are a great number available to Rhode Island physicians. Besides the annual meeting of the American Medical Association there are the College of Physicians, the College of Surgeons and similar groups in every specialty, to say nothing of the various State and sectional meetings and medical school reunions. Every one of these presents opportunities for instruction and stimulation. The busy practitioner, whatever his special interest, will find in one or more of these groups the work that is appropriate for his needs and he owes it to himself and to the patients whom he serves to take this means of broadening his professional horizon, raising the standards and ideals of his work and thus effectively lifting himself out of the rut.

A LITTLE MORE ON RADIO BALLYHOO

With increasing frequency one is almost moved to tears by a compassionate voice over the radio wishing to share his patent medicine with some poor sufferer. The list of such advertisers is daily growing larger. The writer has often wondered why these remedies did not sweep the country, that is, if they are really so useful in combating disease. Advertising would seem almost superfluous. Insulin or liver were not brought to attention of the public by radio and yet both were used universally in an incredibly short space of time. The best advertising for medicine, therefore, would seem to be through the medical profession itself. Of course the drug would of necessity have to be of definite value. The medical profession, by its definite contact with the public, has a powerful weapon to make ineffective and expensive the advertisement of drugs of doubtful value. A few words of caution by a physician will go a long way in deterring a prospective purchase of a nostrum.

INJURIES TO THE COCCYX

(Continued from page 79)

CASE 7—*Coccygodynia Following Parturition.*

Mrs. A. H., age 32, housewife. In May, 1930, after a fairly difficult delivery (requiring the aid of forceps), she experienced severe pain about the coccyx. Her physician states that at the time of delivery he was aware of a sudden release in the pelvic outlet after hearing a "click" at the coccyx. Ten years previously she fell on the ice and "had severe pain over the tip of the spine for several weeks." Home remedies afforded complete relief and she had no recurrences until the present injury. She was sent to me in June, 1930, at which time she was complaining of tenderness over the coccyx while sitting, and pain in that area while climbing stairs, automobile riding, and during defecation. Digital examination showed tenderness and some thickening about the sacro-coccygeal joint. No actual deformity or displacement could be made out, but there was some increase in the antero-posterior motions at the sacro-coccygeal joint with pain in that joint during manipulation. X-ray examination showed "no definite abnormalities." Under conservative treatment over a period of one month the coccygodynia subsided and has not recurred.

When the injury is of recent origin, the symptoms mild, and particularly when rectal and X-ray examinations reveal no marked displacements, conservative measures should be used in the treatment. These include rest in bed, hot sitz baths, local heat, sedatives, use of an air cushion, cathartics, and adhesive strapping to hold the upper part of the buttocks together. If luxation is present, reduction by digital manipulation rectally may sometimes be accomplished, but such reductions cannot be maintained since there is no method of actually fixing the bones in position during the healing period. Alcohol injections have been done in the effort to relieve coccygodynia, but in cases where bone injury has been demonstrated such treatment has not been successful. When the symptoms are persistent and severe, and when the displacement is pronounced, surgical removal of the coccyx should be done.

Excision of the coccyx may be performed under local anaesthesia (2% novocaine), but a general anaesthetic is preferable when the patient is in good

physical condition. With the patient in the prone position, a longitudinal incision is made over the coccyx near the median line, of sufficient length to expose the sacro-coccygeal joint and the entire coccyx. The incision is carried down through the periosteum of the coccyx. By blunt dissection the Coccygeus muscle, together with the periosteum, is freed from the lateral borders. An assistant now inserts his index finger into the patient's rectum to act as a guide, warning against surgical injury to the posterior wall of the rectum during the remainder of the operation. The sacro-coccygeal ligaments are divided with a scalpel, keeping the blade close to the upper surface of the coccyx to avoid the fifth sacral nerve. Then the coccyx is gripped at its upper end with sequester forceps and retracted while the muscle and periosteum are removed from the pelvic surface of the coccyx by blunt dissection. The External Sphincter Ani muscle is separated from the tip, and after the coccyx is removed, the muscle is sutured to the periosteum at the lower end of the sacrum with chromic gut, in order to maintain the action of this muscle in keeping the anal orifice closed. The retracted edges of the Coccygeus muscle are brought together with a chromic suture to close up the dead space left by the excised coccyx. The wound is closed in layers without drainage. The skin is closed with silk-worm gut sutures into which are tied pads of sterile gauze. The thighs are strapped together with wide bands of adhesive plaster for 24 hours. The patient is put on a non-residue diet for three days. On the ninth day the stitches are removed, and on the fourteenth day the patient is allowed out of bed. No disturbance in anal function has been observed following resection of the coccyx.

INTERESTING CONGENITAL DEFORMITIES*

By PAUL APPLETON, M.D., F.A.C.S.
35 TABER AVENUE, PROVIDENCE, R. I.

Every obstetrician who is connected with a large lying-in hospital where there are any considerable number of patients, is very soon impressed by the relatively frequent delivery of deformed or unusual babies. Besides the innumerable minor abnormal-

ities, it is somewhat of a surprise to see in the course of a few months many babies so extremely deformed as to be classed as monsters or terata.

There are two types of deformity,—those which are so slight a variation from the normal as to be of little clinical importance to the child or to its parents, and those so markedly changed as to be impossible of even approximate correction, and incapable of living under usual surroundings or perhaps unable to even carry out life processes and therefore fatal.

Of these gross deformities alone, representing those which either cannot survive or cannot be brought up under normal conditions, there is a large number. At the Providence Lying-In Hospital in 1931 there were 55 such babies out of a total of 2,409 delivered. In 1932 there were 54 out of 2,750 babies delivered,—an incidence of two to three per cent. This means one may reasonably expect to deliver a monstrosity out of every fifty cases. Of these one finds a great variety. A glance at the statistics shows among this group cases of spina bifida, meningocele, hydrocephalus, cranio-rachischisis, microcephalus, cleft palate, imperforate anus, extrophies of organs, congenital oedema, idiots, hemaphrodites and many other babies with congenital absence of essential structures, or pathological duplications.

Many attempts have been made in the past to classify these bizarre individuals either in the language of superstition, embryology or pathology. The simplest method, however, is that which recognizes two large groups—single monsters and double monsters. The single ones are again classified into:

1. Monstra per defectum. (Those showing defective structures.)
2. Monstra per excessum. (Those showing excess in numbers of organs or parts of organs or enlargement of the same.)
3. Monstra per fabricum alienam. (Those showing change in design or distribution of organs or systems.)

The first of these groups in which defective development has occurred is usually the result of imperfect fusion of the lateral halves of the body. Examples are found in anencephalus, spina bifida, cleft palates, extrophies, hypospadias, etc.

The second group of excessive development are represented by overgrowths, either symmetrical or at random or extra structures such as large ex-

*Read before the Providence Medical Association, Dec. 4, 1933. Accompanied by motion pictures.

termitities, supernumerary breasts or nipples, polydactylism, and many cases of pseudo-hemaphroditism.

The third group, which includes normal structure but pathological distribution, are exemplified by cases of situs inversus, and some of the congenital dislocations.

Monstra duplica, or double monsters, are those in which a single ovum has developed two primitive streaks, but fission has become incomplete. In other words, the anlagen of twins has been incomplete, resulting in various degrees of anadydimos,—two heads and one body; or katadydimos, two sets of legs and one body, and other so-called types of "Siamese twins."

The exact etiology of these terata is of course unknown, but we do know that the beginning of deformities occurs in the early embryonic state in most cases—probably in the morula stage and probably within three weeks after conception. Later mechanical conditions or traumata may alter a normally formed foetus, such as amputations from cord pressure, changes resulting from amniotic adhesions, or other alterations from deficient foetal function caused by imperfect placental-maternal interchange. Neoplasms may be found of idiopathic origin, probably due to embryonic cellular metaplasias, and perhaps to toxemias. Certain parental toxemias, either maternal or paternal, probably account for some of the pathological babies. However, it should be here emphasized that *there is no evidence that the mental state of the mother, or so-called maternal impressions, are responsible for the development of monstrosities, deformities, or birth marks.*

There is, however, definite experimental evidence and statistical proof that the tendency to produce terata is familial, and often repeats according to atavism, that is, inheritance from remote ancestors, or from grandparents by skipping a generation.

Deformities may be produced experimentally in animals by poisoning, altering, or traumatizing the fertilized ovum, and these deformities resultant are inherited in succeeding generations. One of the easiest terata to produce experimentally is said to be the cyclops, and it is listed as one of the commonest of human deformities, but strangely enough we have seen it only once in two years at the Lying-In Hospital, that is one case in more than six thousand babies.

The diagnosis of a foetal monster during pregnancy is rarely made. Certain types of gross deformity such as hydrocephalus, anencephalus, and microcephalus may be made out. We know that in cases of polyhydramnion, a deformed baby will usually be delivered. We know also that a baby that presents a single abnormality is likely to have multiple deformities. For instance, in a breech delivery, when clubbed feet appear, one might reasonably expect to go on and find a spina bifida and possibly a hydrocephalus or an anencephalus. The increasing use of the Roentgen ray in obstetrics ought to lead us more frequently to a prenatal diagnosis of monstrosities. It is fair to imply that in any case of suspected multiple pregnancy or a foetus grossly abnormal by objective maternal abdominal examination, an X-ray study of the situation is indicated.

One might ask why attempt a diagnosis, for we can do nothing about the unfortunate foetus. True, but given a diagnosis of a monster one may alter the mode of delivery so as to subject the mother to a minimum of needless suffering and trauma. For example, a diagnosis of hydrocephalus, especially in the after-coming head of a breech case, should lead us away from a difficult extraction in status quo, towards a perforation and collapse of the head to save maternal damage.

The prognosis and treatment of the delivered monster will of course vary with the degree and extent of the deformity. Gross and multiple abnormalities are usually inconsistent with life and are fortunately fatal. Minor variations are amenable to surgical repair and metamorphosis. Some of them require immediate surgical intervention, such as cases of imperforate anus. The operation should be undertaken even at great risk, for there is little to lose and much to be gained.

Each case resolves itself into an individual problem, modified by individual factors, and may require the judgment of several consultants to determine the modus operandi of giving the unfortunate child its best chance for a reasonably normal future. One should not cast aside as hopeless even the many discouraging deformities. There are notable examples of genius in individuals who have been of inestimable value to the world in spite of their congenital handicap.

The prophylactic treatment is of some importance, and should be based on family or personal history. The histories of many terata reveal me-

tallic poisoning in one or both of the parents, and this matter should attract our attention. The incidence of terata from parents who have singly or together been subjected to large doses of radium or X-rays is suggestive. Familial tendencies to the production of monsters ought not to be ignored in matters of premarital advice. The whole question is but another argument against consanguinous marriage and in favor of the basic principles of Eugenics.

It is conventional to congratulate parents upon the birth of a child. It would seem to be more to the point to congratulate any baby that is well born, of clean, healthy parents. The most serious potential accident of life is the accident of birth.

SOCIETIES

THE RHODE ISLAND MEDICAL SOCIETY

The regular quarterly meeting of the Rhode Island Medical Society was held Thursday, March 1, 1934, at the Medical Library, and was called to order at 4 P. M. by the President, Dr. Charles S. Christie.

The minutes of the December meeting, the February meeting of the Council and the February meeting of the House of Delegates were read by the Secretary and approved.

The President announced the appointment of Dr. R. Morton Smith, West Warwick, as Anniversary Chairman.

In the place of Dr. A. P. Noyes, who was unable to serve on the committee to Investigate Health Clinics, Dr. Harvey B. Sanborn, Providence, R. I., was appointed by the President.

The following delegates to the New England Medical Societies were appointed by the President: Maine—Dr. A. M. Merriman, Bristol R. I.; Dr. D. S. Latham, Auburn, R. I. New Hampshire—Dr. H. A. Lawson, Providence, R. I.; Dr. C. S. Westcott, Providence, R. I. Vermont—Dr. H. W. Hopkins, Warren, R. I.; Dr. F. G. Taggart, East Greenwich, R. I. Massachusetts—Dr. Geo. Mathews, Providence, R. I.; Dr. Isaac Gerber, Providence, R. I. Connecticut—Dr. C. F. Deacon, Providence, R. I.; Dr. D. Frank Gray, Providence, R. I.

The President announced the deaths of the following members since the last meeting of the Society:

Dr. Thomas E. Duffee, died in December, 1933

Dr. H. P. Lovewell, died Jan. 1, 1934

Dr. A. C. Sanford, died Feb. 2, 1934

Dr. J. J. Walsh, died Feb. 14, 1934

Dr. Joel A. Webb, died Feb. 20, 1934

Dr. William S. Sherman, died Feb. 28, 1934

and referred the matter of obituaries to the Committee on Necrology to report at the June meeting.

Dr. Arthur Ruggles, chairman on the Committee on the Needs of the State Hospital for Mental Diseases, presented the following report:

"The Committee appointed by the President to cooperate with the Superintendent of the State Hospital for Mental Diseases reports that they are in favor of the plans of the State Welfare Commission for increasing the present facilities at the State Hospital, and believe that the present overcrowding should be relieved as promptly as possible by carrying out the building program submitted in the reports of the State Welfare Commission.

Arthur H. Ruggles, Chairman"

"Mar. 1, 1934."

It was moved and seconded that the report be accepted and spread on the minutes, and that the committee be continued. Dr. J. S. Kelley inquired as to the ultimate disposition of this report, stating that he felt that it should be called to the attention of the Governor and State Legislature. He moved that the report be accepted as a report of progress. The motion was not seconded and the chair ruled that the original motion which included the continuation of the committee constituted a report of progress. There was no appeal from the ruling of the Chair, and the original motion was carried.

The following program was presented:

1. "Medical and Surgical Causes of Mental Diseases"—Case Reports, Dr. Hugh E. Kiene, Providence, R. I. Discussion by Drs. Kramer, Burgess, Lott, and McCann.

2. "Diaphragmatic Hernia." 1. Medical Aspects, Dr. S. Morein, Providence, R. I. Illustrated by X-ray demonstrations. 2. Surgical Aspects, Dr. P. E. Truesdale, Truesdale Clinic, Fall River, Mass. Illustrated by talking moving pictures and supplemented by similar pictures showing the

origin, course, and distribution of the first cranial nerve as prepared by Dr. Truesdale for teaching purposes. Discussion by Drs. Halsey DeWolf, B. Earl Clarke, and Albert Miller.

Dr. Frank Adams, who was to have read a paper on Middle Ear Disease was called away and was unable to present the paper at this meeting but it will be read at the June meeting of the Society.

After adjournment a collation was served.

Respectfully submitted,

J. W. LEECH, M.D., *Secretary*

KENT COUNTY MEDICAL SOCIETY

Secretary's Annual Report, 1933.

At the beginning of the year, Kent County Medical Society had enrolled 21 members. One member died and three new members were added, leaving 23 members on the active list.

A recent survey shows there are 11 physicians who reside in Kent County who are not members of this Society. At least two of these are not in active practice, one belongs to Providence Medical Society, leaving eight physicians who should be members of this Society.

The Society held ten monthly meetings during the year. By agreement the Society never meets in July and August.

The attendance on each meeting was as follows: January, 12 present; February, 8 present; March, 9 present; April, 13 present; May, 12 present; June, 14 present; September, 9 present; October, 11 present; November, 6 present; December, 13 present; average attendance, 10.7 or 50 per cent.

Only three members, the President, the Secretary and the Treasurer, made 100% attendance. Three members failed to attend any meetings. The others attended from 30 to 70% of the meetings.

Ten papers were read at nine of the meetings on the following specialties of medicine:

Ophthalmology, 2 papers; orthopaedics, 1 paper; general surgery, 1 paper; gynecology, 2 papers; anaesthesia, 1 paper; obstetrics, 1 paper; neurology, 1 paper; President's annual address, 1 paper.

These papers were all of practical value to the general practitioner, and as will be observed covered nearly every field in the practice of medicine.

Since good attendance is the first essential of a well functioning medical society, your Secretary urges every member to be present at every meeting if possible. That each member takes an active part in the discussions, and to stand ready and willing to prepare scientific and practical papers of interest to the members of the Society.

The following are the newly elected officers for 1934: President, Dr. John A. Mack, 1575 Main Street, West Warwick, R. I.; Vice President, Dr. Fenwick G. Taggart, 1 Montrose Street, East Greenwich, R. I.; Secretary, Dr. L. J. Smith, Apponaug, R. I.; Treasurer, Dr. J. F. Archambault, Gardner Street, West Warwick, R. I. Censors: Dr. Charles E. Phillips, 294 Main Street, East Greenwich, R. I.; Dr. Harold L. Collom, Apponaug, R. I.; Dr. J. F. Archambault, Gardner Street, West Warwick, R. I.

Respectfully submitted,

L. J. SMITH, M.D., *Secretary*

BOOK REVIEWS

THE PURCHASE OF MEDICAL CARE THROUGH FIXED PERIODIC PAYMENT, by Pierce Williams. A publication of the National Bureau of Economic Research, 51 Madison Ave., New York, 1932.

This book is a report of investigation of the different methods already being used in the United States by which individuals in consideration of a fixed payment are assured of medical or hospital care. The report does not take up the Workmen's Compensation Law. It also does not take up accident and health insurance which pays cash benefits. It deals only with the purchase of medical care through fixed payments.

The report does not attempt to criticize or to evaluate the different types of group medicine discussed. It gives merely a painstaking and accurate description of what the different groups are doing.

Fixed payment medical service has considerable development in the lumber and mining industries of the Northwest, in the mining industries of the Rocky Mountain states, in the coal mining industries throughout the country, and in the railroad systems. Although there is no uniformity of plan,

in general these industries built up a medical system to take care of Workmen's Compensation cases and this system has expanded to take care of all sickness among workmen and their families. For this a certain sum is deducted from the wages. These industrial systems grew up largely because the employees lived in country districts where adequate medical care could not be obtained.

Other types of fixed payment medical service are found. Some Private Group Clinics offer this service, chiefly in the Middle Western states. Most interesting examples of Community Health Associations are those of Brattleboro and New Bedford.

This book is an excellent reference book for information on health insurance in kind as practised in the United States.

THE HISTORY OF DERMATOLOGY, by William Allen Pusey, M.D., LL.D.; Professor of Dermatology Emeritus, University of Illinois; Sometime President of the American Dermatological Association and of the American Medical Association. First edition. Cloth. Price \$3.00. Pp. 223 with 33 illustrations. Springfield, Ill.: Charles C. Thomas.

This is the first book, in English, to give us a history of dermatology. The author, evidently, has spent a good deal of time in delving into the beginning and development of dermatology and he has given it to us in a most readable and interesting way.

He tells us that thirty-five hundred years ago the Egyptians began to study anatomy and physiology. Various skin troubles were recognized as dermatitis, scabies, ulcers, buboes, moles and alopecia areata. Even at that time much consideration was given to personal appearance, for gray hair, baldness, moles and wrinkles were treated by amazing concoctions, and cosmetics even then came in for much attention.

Greek medicine had a real scientific quality, and the Greeks were strong proponents of personal hygiene and cleanliness.

In contrast to this scientific foundation of the Greeks, who depended upon clinical observation and a rational explanation of disease, we note a substitution of a philosophy of medicine by the Romans, of whom Galen is the most famous. He tells us of the important advances of the Arabians who first described smallpox.

Beginning with the sixteenth century, we have the most productive period in history. The discovery of the microscope opened up a great field, and anatomy, physiology and pathology were developed to the limit of the resources of existing knowledge. From that time on there was a steady advance in knowledge, and the advances in dermatology went hand in hand with the advancement of medicine in general.

The various parts that eminent men in France, Italy, Germany and England played in the progress of dermatology and medicine are told in a very interesting manner. As may be expected, most of the pioneer work was done in these countries, but in the nineteenth century the United States began to do its part. Along with the narration of the advances, Dr. Pusey has given us the titles of all epoch-making publications of these pioneers. Last but not least, he has inserted an historical index of dermatology which, he says, is probably the only one in existence. It is an extremely interesting and valuable index.

The book is very readable and may be read by every physician with much benefit.

RADIOLOGIC MAXIMS, by Harold Swanberg, B.Sc., M.D., F.A.C.P., Editor of *The Radiological Review*, Quincy, Illinois. With a foreword by Henry Schmitz, A.M., M.D., LL.D., F.A.C.S., Professor of Gynecology and Head of the Department, Loyola University School of Medicine. Cloth. Price, \$1.50. Pages, 126. Quincy, Illinois: Radiological Review Publishing Company, 1932.

The book consists of short paragraphs or "maxims" on X-ray subjects, together with quotations from well known physicians on X-ray topics. The contents are grouped under headings of 1. General, 2. Diagnosis, and 3. Treatment; with regional subdivisions for each. A fairly complete index is appended.

While the subject matter attempts to embrace the whole field of X-ray diagnosis and treatment, it is not sufficiently complete to be regarded as a text book nor as exhaustive as a monograph. For the most part the statements appear to be correct but they are occasionally subject to the half truths of all epitome.

ADVERTISEMENTS

SEVEN YEARS' USE

*has demonstrated the
value of*

THE SURGICAL SOLUTION

of

MERCUROCHROME, H. W. & D.

in

PREOPERATIVE SKIN DISINFECTION

This preparation contains 2% Mercurochrome in aqueous-alcohol-acetone solution and has the advantages that:

Application is not painful.

It dries quickly.

The color is due to Mercurochrome and shows how thoroughly this antiseptic agent has been applied.

Stock solutions do not deteriorate.

Now available in 4, 8 and 16 oz. bottles and in special bulk packages for hospitals.

Literature on request

HYNSON, WESTCOTT & DUNNING, INC.
BALTIMORE, MARYLAND

Convalescent Home

Finest accommodations for patients. Wonderful view of Bay, tennis court, swimming pool, 2 acres of beautiful landscape gardening with walks and lawns to waterfront with clean, sandy beach, large sunny rooms, 4 baths, dining room service "optional."

Large solarium and porches, "auto-mobile accommodations," tonic baths and massage, male nurse available for outside emergency cases.

FOR TERMS AND PARTICULARS

ADDRESS

A. C. HOLMES A. J. HOLMES
Graduate Nurse Masseuse

1396 NARRAGANSETT BLVD.

EDGEWOOD, R. I.

Tel. HOpkins 2762



Roger Williams Press

Printers since 1870

E. A. Johnson Company

71 Peck Street , , , Providence

Many of Rhode Island's Leading Physicians patronize this old reliable firm — Do You?

Mention our Journal — it identifies you.

It is quite evident from the whole tone of the book, that it constitutes an effort to "sell" X-ray service to the rest of the profession. The preface states that it is hoped the book will prove useful to the general practitioner. In other words, the aim is that the aforesaid G. P. will refer more cases to the roentgenologist.

The *field* of roentgenology needs no such "insidious propaganda" although it might seem that the *practice* of roentgenology needed more patients in these troublesome times.

The continuity of the book is similar to that of a scrap-book and the contents worth as much.

DISEASES OF TRADESMEN by Bernardino Ramazzini; SILK HANDLERS' DISEASE by Herman Goodman. Medical Lay Press, New York City, 1933.

Herman Goodman says, in his preface, that a short time before undertaking the study of skin disorders of silk workers, the name of Ramazzini was practically unknown to him. Many physicians could easily make similar statements.

We should be grateful to him for so splendidly recalling to us one of the greatest minds of the seventeenth century, that of a man who stands in one of the highest positions among the forerunners of modern medicine.

Bernardino Ramazzini was born in 1633 in Carpi, Italy, and died in 1714, professor of medicine in the famous University of Padua. He left, among other works, the "Disease of Tradesmen," which, from the original Latin, was translated into English, French and German and went through many editions as one of the most valuable textbooks of the time.

From this book Herman Goodman has selected excerpts dealing chiefly with skin disorders among workers of various trades. This subject is of particular interest to the dermatologist. Ramazzini's description of these diseases is as modern as though he had lived in our generation.

The second part of the book is devoted by Herman Goodman to a personal extensive study of Dermatitis of the hands and forearms of employees in a silk mill, and constitutes a most valuable contribution to the knowledge of the complex occupational disorders of the skin.

Editorial Notes

Dear Doctor:

"The Journal" and the Co-operative Medical Advertising Bureau of Chicago maintain a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, such as soaps, clothing, automobiles, etc., which you may need in your home, office, sanitarium or hospital.

We invite and urge you to use this Service.

It is absolutely **free** to you.

The Co-operative Bureau is equipped with catalogues and price lists of manufacturers, and can supply you information by return mail.

Perhaps you want a certain kind of instrument which is not advertised in "The Journal," and do not know where to secure it; or do not know where to obtain some automobile supplies you need. This Service Bureau will give you the information.

Whenever possible, the goods will be advertised in our pages, but if they are not, we urge you to ask "The Journal" about them, or write direct to the Co-operative Medical Advertising Bureau, 535 N. Dearborn St., Chicago, Illinois.

We want "The Journal" to serve you.